

ABSTRACT

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5           Green fluorescent protein (GFP) is widely used as a  
reporter in determining gene expression and protein localization.  
The present invention provides fusion proteins with a half life of ten  
hours or less with several embodiments having half lives of 4 hours  
or less. Such proteins may be constructed by fusing C-terminal  
10 amino acids of the degradation domain of mouse ornithine  
decarboxylase (MODC), which contains a PEST sequence, to the C-  
terminal end of an enhanced variant of GFP (EGFP). Fluorescence  
intensity of the fusion protein in transfected cells is similar to that of  
EGFP, but the fusion protein, unlike EGFP, is unstable in the presence  
15 of cycloheximide. Specific mutations in the MODC region have  
resulted in mutants with varying half lives, useful for a variety of  
purposes.